

## **LISTING OF THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Withdrawn) A *C. albicans* cell containing a vector in which a nucleic acid molecule which encodes a cell wall protein necessary for the hyphae development of a pathogenic fungal organism is arranged in antisense orientation to at least one regulation element and is selected from the group consisting of:

a) a nucleic acid molecule having a nucleotide sequence selected from the group consisting of SEQ ID No. 1, SEQ ID No. 3 and SEQ ID No. 5,

b) a nucleic acid molecule having a nucleotide sequence which encodes a protein having an amino acid sequence selected from the group consisting of SEQ ID No. 2, SEQ ID No. 4 and SEQ ID No. 6,

c) a nucleic acid molecule having a nucleotide sequence which shows a homology of at least 80% to a nucleotide sequence of one of the nucleic acid molecules of a) or b) over its entire length, and

d) a nucleic acid molecule having a nucleotide sequence which is complementary to a nucleotide sequence of one of the nucleic acid molecules of a) to c), and

e) a fragment of a nucleic acid molecule defined in a) to d) which can inhibit the expression of a cell wall protein of a pathogenic fungal organism in antisense orientation to a promoter in a host cell and which comprises at least 10 nucleotides.

2. (Withdrawn) A method for the production of a cell wall protein necessary for the hyphae development of a pathogenic fungal organism, said method comprising culturing a host cell in a suitable culture medium under conditions which allow expression of the cell wall protein, and obtaining of the expressed cell wall protein from the cell or from the medium, wherein the host cell contains at least one vector in which the nucleic acid molecule defined in claim 1 is arranged in antisense orientation to at least one regulation element.

3. (Withdrawn) An antibody which specifically recognizes a protein and binds thereto, wherein the protein contains an amino acid sequence selected from the group consisting of SEQ ID No. 2, SEQ ID No. 4 and SEQ ID No. 6.

4. (Withdrawn) The antibody as claimed in claim 3, wherein the antibody is a monoclonal or a polyclonal antibody.

5. (Withdrawn) A method for at least one of the characterization of and/or for and the detection of the hyphae stage of *Candida* cells or cells of pathogenic fungal organisms of a *Trichosporon* species or of a *Blastoschizomyces* species, the method comprising the incubation of the cells or cell fractions thereof with an agent for the identification of a cell wall protein which contains the amino acid sequence selected from the group consisting of SEQ ID No. 2, SEQ ID No. 4 and SEQ ID No. 6, wherein the detection of the protein or of a fragment thereof indicates the presence of the virulent hyphae stage of the cells.

6. (Withdrawn) The method as claimed in claim 5, wherein the *Candida* cells to be characterized are selected from the group consisting of cells of *C. albicans*, *C. tropicalis*, *C. krusei*,

*C. parapsilosis*, *C. guilliermondii*, *C. glabrata*, *C. dubliniensis* and *C. lusitaniae*.

7. (Withdrawn) The method as claimed in claim 5, wherein the cells to be characterized are present in a biological sample.

8. (Withdrawn) The method as claimed in claim 5, wherein the cells to be characterized are cells isolated from a biological sample and enriched intact cells.

9. (Withdrawn) The method as claimed in claim 5, wherein isolated cell fractions are employed for the characterization, wherein said fragments are obtained by cell disruption and fractionation of *Candida* cells or cells of species related to *Candida* and which comprise at least one cell wall fraction.

10. (Withdrawn) The method as claimed in claim 5, wherein the agent employed for the identification of the protein is an immunological agent.

11. (Withdrawn) The method as claimed in claim 10, wherein the immunological agent is selected from the group consisting of an antiserum directed against the protein, an antibody which specifically recognizes a protein and binds thereto, wherein the protein contains an amino acid sequence selected from the group consisting of SEQ ID No: 2, SEQ ID No: 4 and SEQ ID No: 6, a fragment thereof and a complex thereof.

12. (Withdrawn) The method as claimed in claim 11, wherein the antibody has a label selected from the group consisting of a dye label, a radiolabel, a fluorescent label, a chemiluminescent label

and an enzyme inducing a measurable reaction.

13. (Withdrawn) A method for at least one of the detection of a *Candida* infection and of an infection by pathogenic fungal organisms of a *Trichosporon* species or of a *Blastoschizomyces* species in a biological sample obtained from a human or animal organism, wherein the presence of at least one protein selected from the group consisting of Rbr1p, Rbr2p and Rbr3p and a fragment thereof in at least one of the biological sample and in the cell wall of *Candida* cells or cells of pathogenic fungal organisms of a *Trichosporon* species or of a *Blastoschizomyces* species optionally contained in the biological sample is detected, the method comprising

a) incubating the biological sample with an agent for the identification of the cell wall protein which contains an amino acid sequence selected from the group consisting of SEQ ID No. 2, SEQ ID No. 4 and SEQ ID No. 6, and

b) detecting the interaction of the identification means with the protein.

14. (Withdrawn) The method as claimed in claim 13, wherein the *Candida* cells are cells selected from the group consisting of *C. albicans*, *C. tropicalis*, *C. krusei*, *C. parapsilosis*, *C. guilliermondii*, *C. glabrata*, *C. dubliniensis* and *C. lusitaniae*.

15. (Withdrawn) The method as claimed in claim 13, wherein the biological sample is selected from the group consisting of a skin or mucous membrane swab, an organ biopsy, a tissue biopsy, a body fluid, a body secretion, stool and a rinse from a cavity or a hollow organ.

16. (Withdrawn) The method as claimed in claim 15, wherein the body fluid is selected from the

group consisting of sputum, urine, pleural effusion, spinal fluid, lymph and blood.

17. (Withdrawn) The method as claimed in claim 16, wherein the blood is present as an unpurified blood sample, blood plasma or blood serum.

18. (Withdrawn) The method as claimed in claim 16, wherein invasive candidiasis is detected by the detection of the protein in blood or in the cell wall of *Candida* cells contained in the blood.

19. (Withdrawn) The method as claimed in claim 13, wherein the agent employed for the identification of the protein is an immunological agent.

20. (Withdrawn) The method as claimed in claim 19, wherein the immunological agent is selected from the group consisting of an antiserum directed against the protein, an antibody which specifically recognizes a protein and binds thereto, wherein the protein contains an amino acid sequence selected from the group consisting of SEQ ID No: 2, SEQ ID No: 4 and SEQ ID No: 6, a fragment thereof and a complex thereof.

21. (Withdrawn) The method as claimed in claim 19, wherein the antibody has a label selected from the group consisting of a dye label, a radiolabel, a fluorescent label, a chemiluminescent label and an enzyme inducing a measurable reaction.

22. (Canceled)

23. (Currently Amended) A diagnostic composition comprising an agent identified according to

the method of claim 22 selected from the group consisting of:

1) a nucleic acid molecule which encodes a cell wall protein necessary for the hyphae development of a pathogenic fungal organism and which is selected from the group consisting of

a) a nucleic acid molecule having the nucleotide sequence SEQ ID NO:1;

b) a nucleic acid molecule having a nucleotide sequence which encodes a protein having the amino acid sequence SEQ ID NO:2;

c) a nucleic acid molecule having a nucleotide sequence which shows a homology of at least 80% to a nucleotide sequence of one of the nucleic acid molecules of a) or b) over its entire length;

d) a nucleic acid molecule having a nucleotide sequence which is complementary to a nucleotide sequence of one of the nucleic acid molecules of a) to c); and

e) a fragment of nucleic acid molecule defined in a) to d) which can inhibit the expression of a cell wall protein of a pathogenic fungal organism in antisense orientation to a promoter in a host cell and which comprises at least ten nucleotides.

2) a vector which contains a nucleic acid molecule according to 1);

3) a host cell which contains a vector according to 2); and

4) a protein which contains an amino acid sequence SEQ ID NO:2.

24. (Currently Amended) A pharmaceutical composition comprising an agent identified according to the method of claim 22 selected from the group consisting of:

1) a nucleic acid molecule which encodes a cell wall protein necessary for the hyphae development of a pathogenic fungal organism and which is selected from the group consisting of

a) a nucleic acid molecule having the nucleotide sequence SEQ ID NO:1;

b) a nucleic acid molecule having a nucleotide sequence which encodes a protein having the amino acid sequence SEQ ID NO:2;

c) a nucleic acid molecule having a nucleotide sequence which shows a homology of at least 80% to a nucleotide sequence of one of the nucleic acid molecules of a) or b) over its entire length;

d) a nucleic acid molecule having a nucleotide sequence which is complementary to a nucleotide sequence of one of the nucleic acid molecules of a) to c); and

e) a fragment of nucleic acid molecule defined in a) to d) which can inhibit the expression of a cell wall protein of a pathogenic fungal organism in antisense orientation to a promoter in a host cell and which comprises at least ten nucleotides.

2) a vector which contains a nucleic acid molecule according to 1);

3) a host cell which contains a vector according to 2); and

4) a protein which contains an amino acid sequence SEQ ID NO:2.

25. (Withdrawn) A pharmaceutical composition, in the form of a vaccine which contains a protein identified according to the method of claim 22 and which is suitable for the active immunization of a human or animal body against a *Candida* infection.

26. (Withdrawn) A pharmaceutical composition in the form of a vaccine which contains an antibody identified according to the method of claim 22 and which is suitable for the passive immunization of a human or animal body against a *Candida* infection.

27. (Withdrawn) The pharmaceutical composition as claimed in claim 25, wherein the vaccine is present as a lyophilizate.

28. (Withdrawn) The pharmaceutical composition as claimed in claim 25, wherein the vaccine is present as an aqueous colloidal solution or suspension.

29. (Withdrawn) The pharmaceutical composition as claimed in claim 25, additionally containing at least one adjuvant.
30. (Withdrawn) A kit for the in vitro identification of at least one of a cell wall protein selected from the group consisting of Rbr1p, Rbr2p and Rbr3p of *Candida* species, a pathogenic organism of a *Trichosporon* species, a *Blastoschizomyces* species and/or for the in vitro detection of the virulence of the cells, said kit comprising at least one container containing an antibody as claimed in claim 3.
31. (Withdrawn) The kit as claimed in claim 30, comprising a second container containing the isolated and purified protein comprising an amino acid sequence selected from the group consisting of SEQ ID No. 2, SEQ ID No. 4 and SEQ ID No. 6.
32. (Withdrawn) A method for the diagnosis of diseases of a human or animal organism which are caused by *Candida* species or pathogenic fungal organisms of a *Trichosporon* species or of a *Blastoschizomyces* species which comprises administering to said organism an agent identified by the method of claim 22.
33. (Withdrawn) A method for the production of a diagnostic composition for the diagnosis of diseases of a human or animal organism which are caused by *Candida* species or pathogenic fungal organisms of a *Trichosporon* species or of a *Blastoschizomyces* species wherein the method comprises incorporating into said diagnostic composition a therapeutic substance identified by the method of claim 22.
34. (Withdrawn) A method for at least one of the treatment and prevention of diseases of a human



or animal organism which are caused by *Candida* species or pathogenic fungal organisms of a *Trichosporon* species or of a *Blastoschizomyces* species, which method comprises administering to an organism in need thereof a composition comprising, as an active material, a substance identified by the method of claim 22.

35. (Withdrawn) A method for the production of a pharmaceutical composition for at least one of the treatment and prevention of diseases of a human or animal organism which are caused by *Candida* species or pathogenic fungal organisms of a *Trichosporon* species or of a *Blastoschizomyces* species, which method comprises including within said pharmaceutical composition a substance identified by the method of claim 22.

36. (Withdrawn) A method for at least one of the identification and the detection of a substance which inhibit the expression or activity of the Rbr1p protein in a pathogenic fungal organism and are suitable as an active compound for the production of a pharmaceutical composition for the control of complaints caused by *Candida* species wherein said substance is identified or detected with the use of a material identified by the method of claim 22.

37. (Withdrawn) A method for the isolation of a homologous nucleic acid which encodes at least one of the Rbr1p protein, the Rbr2p protein and the Rbr3p protein of at least one selected from the group consisting of *C. tropicalis*, *C. krusei*, *C. parapsilosis*, *C. guilliermondii*, *C. glabrata*, *C. dubliniensis*, and *C. lusitaniae*, of a *Trichosporon* species, a *Blastoschizomyces* species or of another fungal pathogenic organism, wherein said method involves the use of at least one selected from the group consisting of a nucleic acid molecule having one of the nucleotide sequences selected from SEQ ID No:1, SEQ ID No: 3 and SEQ ID No: 5, a nucleic acid molecule having a nucleotide

sequence which encodes a protein having one of the amino acid sequences selected from the group consisting of SEQ ID No: 2, SEQ ID No: 4 and SEQ ID No: 6, and a fragment thereof.

38. (Withdrawn) A method for at least one of the characterization and the detection of the virulent hyphae stage of *Candida* cells, wherein said method involves the use of an antibody according to claim 3.